

This application is a continuation of App. No. 10/091,257 filed 3/5/02 now U.S. Patent 6,616,930 which is a continuation of 09/654,289 filed 9/11/00 now U.S. Patent 6,416,030 which is a continuation of 08/724,979 filed 10/4/96 now U.S. Patent 6,113,911 which is a 371 of PCT/FR95/00444 filed 4/6/95.

WO 95/27787

PCT/FR95/00444

**PEPTIDE FRAGMENT OF RESPIRATORY SYNCYTIAL VIRUS
PROTEIN G, IMMUNOGENIC AGENT, PHARMACEUTICAL
COMPOSITION CONTAINING IT AND PREPARATION PROCESS**

5 The present invention relates to polypeptides
which can be used especially in the preparation of
immunogens and the obtainment of vaccine against
respiratory syncytial virus (RSV) and to nucleotide
sequences enabling them to be obtained. The invention
likewise relates to an immune adjuvant protein extracted
10 from *Klebsiella pneumoniae*, to compositions comprising
the immunogenic polypeptides, possibly associated with
such an adjuvant protein, and to their preparation
process.

15 Respiratory syncytial virus (RSV) is the most
frequent cause of respiratory illnesses in the newborn:
bronchopneumopathies (bronchiolites). The WHO estimates
each year 50 million cases of RSV attacks, from which
160,000 die in the entire world. There are two subgroups
of the virus (subgroups A and B).

20 RSV is classified in the Paramyxoviridae family,
a type of pneumovirus comprising a nonsegmented RNA
genome, of negative polarity, coding for 10 specific
proteins.

25 There is at present no vaccine available against
RSV. Inactivated virus vaccines have been shown to be
inefficacious and have sometimes even aggravated the
infections of nursing infants. In the 60's, vaccination
attempts with formalin-inactivated RSV resulted in
failure: instead of conferring protection at the time of
30 reinfection due to RSV, the vaccine had the effect of
aggravating the illness in the child.

The Application WO 87/04185 proposed to use
structural proteins of RSV with a view to a vaccine, such
as the envelope proteins called protein F (fusion
35 protein) or protein G, a 22 Kd glycoprotein, a 9.5 Kd
protein, or the major capsid protein (protein N).

The Application WO 89/02935 describes the
protective properties of the entire protein F of RSV,
possibly modified in monomeric or deacetylated form.

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